



IN REPLY REFER TO:

AFES/MMM

# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

1011 E. Tudor Road  
Anchorage, Alaska 99503-6199

**COPY FOR YOUR  
INFORMATION**



JAN 28 2008

Ms. Susan Childs  
Shell Exploration & Production Company  
3601 C Street, Suite 1334  
Anchorage, Alaska 99503

Dear Ms. Childs:

This responds to your December 7, 2007, request for Letters of Authorization (LOA) for the incidental and intentional take of polar bears in regards to the Shell Offshore, Inc. (Shell) 2008 Beaufort Sea Aerial Reconnaissance Program.

Enclosed is a LOA (08-08) that allows Shell to take small numbers of polar bears incidental to oil and gas industry exploration activities at the above location identified in your LOA request. The proposed start date for this project is January 2008. Shell plans to make three reconnaissance flights over its Outer Continental Shelf (OCS) leases between Point Thomson and Barter Island in the Beaufort Sea. The initial reconnaissance flight will examine ice conditions as well as the deployment of the three Argos buoys to be used to track ice flow directions. The two succeeding flights will involve ice reconnaissance only. All provisions contained within Shell's polar bear interaction plan are incorporated by reference into this LOA.

Due to their importance as polar bear denning habitat, the larger barrier islands, such as Tigvariak and Flaxman islands, are areas where the U.S. Fish and Wildlife Service (Service) prefers to minimize disturbance to possible denning bears. The flight paths for the reconnaissance surveys (as described in Figure 1) are adequate for minimizing disturbance of potential bear dens on those islands.

If any changes develop in your project during the 2008 winter season, such as flight paths, activities or location, please notify the Marine Mammals Management Office prior to the planned operation. This would allow us to evaluate the activity and, if appropriate, amend your LOA.

Polar bear conservation has benefited from monitoring programs associated with the Incidental Take program since 1993. Monitoring serves to assess the effect of industrial activities on polar bears by evaluating trends and effects of bear encounter rates, take frequency, as well as the location and timing of encounters. In addition, the Service believes that monitoring and protection measures for marine mammals described in Shell's Bear Avoidance and Human Encounter/Interaction plan are appropriate. The Service biologists are available for consultation

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Ms. Susan Childs

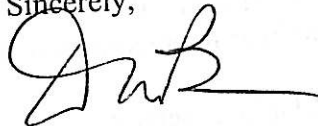
if questions or concerns arise during the project period at the phone numbers listed below and noted in your interaction plan.

In addition, this letter includes a Level B harassment authorization (enclosed), for Shell and its representatives to take polar bears by harassment (deterrent activities) for the protection of both human life and polar bears while conducting activities in polar bear habitat for all 2008 Beaufort Sea Aerial Reconnaissance Program. This authorization is issued specifically to Shell employees who are responsible for ensuring that trained and qualified personnel are assigned the task to harass (deter) polar bears. It is the responsibility of Shell personnel to report all polar bear harassment events to our Marine Mammals Management Office within 24 hours. This authorization is effective for the period, date of issuance to June 30, 2008. Intentional take is authorized under sections 101 (a)(4)(A), 109(h), and 112(c) of the Marine Mammal Protection Act (MMPA).

If a polar bear interaction escalates into a life threatening situation, Section 101(c) of the MMPA allows, without specific authorization, the take (including lethal take) of a polar bear if such taking is imminently necessary in self-defense or to save the life of a person in immediate danger, and such taking is reported to the U.S. Fish and Wildlife Service, Marine Mammal Management Office within 24 hours.

This authorization is issued in accordance with our regulations listed at 71 FR 43926, dated August 2, 2006. Should you have any further questions contact Mr. Craig Perham of our Marine Mammals Management Office, at (907) 786-3800 or 786-3810.

Sincerely,



Rosa Meehan, Ph.D.  
Marine Mammals Management

Enclosure

cc: Mr. Dick Shideler, ADFG  
FFWFO  
USFWS Office of Law Enforcement (OLE)



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## FISH AND WILDLIFE SERVICE

1011 E. Tudor Road  
Anchorage, Alaska 99503-6199



MMM

ISSUED: January 15, 2008

EXPIRES: June 30, 2008

### LETTER OF AUTHORIZATION (08-08)

Shell Offshore, Inc. (Shell) is hereby authorized to take small numbers of polar bears incidental to activities occurring during the 2008 Beaufort Sea Aerial Reconnaissance Program. This includes, but is not limited to, all activities associated with the Program, such as three reconnaissance flights over its Outer Continental Shelf (OCS) leases between Point Thomson and Barter Island in the Beaufort Sea. The initial reconnaissance flight will examine ice conditions as well as the deployment of the three Argos buoys to be used to track ice flow directions. The two succeeding flights will involve ice reconnaissance only.

The LOA is valid from the date of issuance to June 30, 2008. This authorization and the required conditions below include contractors of Shell performing Shell-approved work under the scope of operations to be conducted. Authorization is subject to the following conditions:

1. The "Alaska North Slope, Chukchi and Beaufort Seas Polar bear, grizzly bear and Pacific Walrus Avoidance, Encounter, and Interaction Plan," dated December 2006, is approved and all provisions must be complied with unless specifically noted otherwise in this Letter of Authorization. A copy of this polar bear interaction plan must be available on site for all personnel.
2. Shell Operations Managers, or their designates, must be fully aware, understand, and capable of implementing the conditions of this authorization.
3. Intentional take is prohibited under this authorization.
4. This authorization is valid only for those activities identified in the request for a Letter of Authorization dated December 7, 2007.

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5. Polar bear monitoring, reporting, and survey activities must be conducted in accordance with 50 CFR section 18.128. In addition, Shell must comply with the following monitoring, mitigation, and reporting requirements:
- Shell must cooperate with the Fish and Wildlife Service (Service), and other designated Federal, State, or local agencies to monitor the impacts of oil and gas exploration activities on polar bears;
  - Shell must not conduct activities that operate nor pass within 1 mile of known polar bear dens, and all observed dens must be reported to the Marine Mammals Management Office, Fish and Wildlife Service immediately. Should occupied dens be identified within one mile of activities, work in the immediate area will cease and Service must be contacted for guidance. The Service will evaluate these instances on a case-by-case basis to determine the appropriate action. Potential actions may range from cessation or modification of work to conducting additional monitoring, and Shell must comply with any additional measures specified.
  - Due to their importance as polar bear denning habitat, flight paths for the surveys will be offset from the coastline of Beaufort Sea islands (including Flaxman and Tigvariak islands) by at least ½ mile and 1,000 feet above ground level (AGL).
  - If requested, flight paths of the reconnaissance surveys will be made available to the Service by Shell.
  - If any changes develop in your project during the 2008 winter season, such as flight paths, activities or location, notify the Marine Mammals Management Office prior to the planned operation.
  - Shell must designate a qualified individual or individuals to observe, record, and report the effects of the activity on polar bears to the Service within 24 hours of visual observation;
  - Every polar bear observed will be recorded on a Polar Bear Observation Form. Information within the observation report will include, but is not limited to:
    1. Date
    2. Time
    3. Observer name
    4. Contact number/email

5. Location, with latitude, longitude, and datum, if applicable
6. Weather conditions at time of observation
7. Temperature
8. Visibility
9. Number of bears: sex and age
10. Estimated closest point of bears from personnel and facilities
11. Possible attractants present
12. Bear behavior
13. A description of the encounter
14. Duration of the encounter
15. Type of Deterrents used and distance from bear when used
16. Agency/Contacts

- Evidence of polar bears, such as tracks, carcass, or dens, will also be reported;
- At the discretion of the Fish and Wildlife Service, Shell must allow the Fish and Wildlife Service to place an observer on the site to monitor the impacts of the activity on polar bears;
- Shell must submit an annual monitoring report to the Marine Mammals Management Office as required under 18 CFR 18.128(f), which will be received by September 30, 2008.

6. This authorization expires June 30, 2008.



Chief, Marine Mammals Management

1/23/08

Date



100. The first part of the document is a letter from the President of the United States to the Congress, dated January 1, 1801. It is a very important document, as it contains the President's first message to the Congress.

The letter is written in a very formal and dignified style, and it is one of the most important documents in the history of the United States. It contains the President's first message to the Congress, and it is a very important document, as it contains the President's first message to the Congress.

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### FISH AND WILDLIFE SERVICE

1011 E. Tudor Road  
Anchorage, Alaska 99503-6199



AFES/MMM

### U.S. Fish and Wildlife Service

## AUTHORIZATION TO TAKE, BY HARASSMENT, POLAR BEARS

ISSUED: January 15, 2008

EXPIRES: June 30, 2008

Under Sections 101 (a)(4)(A), 109(h), and 112(c) of the Marine Mammal Protection Act of 1972, as amended, Shell Offshore, Inc. (Shell) is authorized to take, by harassment, polar bears during exploration activities in association with the 2008 Beaufort Sea Aerial Reconnaissance Program. This includes, but is not limited to, all activities associated with the Program, such as three reconnaissance flights over its Outer Continental Shelf (OCS) leases between Point Thomson and Barter Island in the Beaufort Sea. The initial reconnaissance flight will examine ice conditions as well as the deployment of the three Argos buoys to be used to track ice flow directions. The two succeeding flights will involve ice reconnaissance only.

The purpose of authorizing taking by harassment, or deterrence, is to maintain human and bear safety and welfare in the North Slope oilfields. Authorizing Level B harassment take reduces the likelihood of death or injury of polar bears. This is accomplished by the following objectives:

1. Prevent bears from associating food with humans and facilities;
2. "Train" bears to avoid people;
3. Allow bears to use travel routes (natural and man-made) to move along the coast;
4. Prevent bears from extended use of areas around facilities;
5. Prevent bears from entering the developed parts of the oilfield

Harassment authorization is subject to the following conditions:

1. The "Alaska North Slope, Chukchi and Beaufort Seas Polar bear, grizzly bear and Pacific Walrus Avoidance, Encounter, and Interaction Plan," dated December 2006, is approved and all provisions must be complied with unless specifically noted otherwise in this Letter of Authorization. A copy of this polar bear interaction plan must be available on site for all personnel.



2. Shell Operations Managers, or their designates, must be fully aware, understand, and capable of implementing the conditions of this authorization.
3. This authorization is restricted to harassment activities.
4. Authorized individuals are responsible for documenting and reporting to the U.S. Fish and Wildlife Service, Marine Mammals Management Office, (907) 786-3800, all instances involving harassment activities as soon as possible and not later than 24 hours after the occurrence.
5. Activities will not operate nor pass within 1 mile of known polar bear dens, and all observed dens will be reported to the Marine Mammals Management Office, Fish and Wildlife Service immediately. Should occupied dens be identified within one mile of activities, work in the immediate area will cease and Service will be contacted for guidance. The Service will evaluate these instances on a case-by-case basis to determine the appropriate action. Potential responses may range from cessation or modification of work to conducting additional monitoring.
6. A final report of all encounters and hazing events must be submitted to the U.S. Fish and Wildlife Service, Marine Mammals Management Office within 60 days from the expiration date of this authorization.
7. Hazing techniques must not cause the injury or death of a bear. Types of hazing techniques may include, but are not limited to:
  - Bear Monitors;
  - Air horns;
  - Electric fences;
  - Chemical repellents;
  - Acoustic recordings;
  - Vehicles;
  - Projectiles: cracker shells, bean bags, rubber bullets, screamers, etc.
8. Prior to conducting a harassment activity, operators must:
  - Reduce/eliminate attractants;
  - Secure site; notify supervisor; move personnel to safety;
  - Ensure bear has escape route(s);
  - Ensure communication with all personnel
9. When conducting a harassment activity, operators must:
  - Chose the method that will have the least effect on the bear and increase the intensity of the method or use additional methods only if necessary;

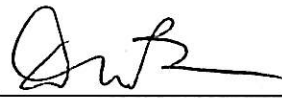


- Shout at the bear before using projectile (avoidance conditioning);
- Move bear in proper direction; continue with minimally necessary deterrents to receive desired result

10. After a harassment event has occurred, operators must:

- Monitor bear movement (to ensure no return);
- Notify supervisor and personnel to resume work;
- Fill out report to be sent to the Service as required under condition 4 (within 24 hours)

11. This Authorization is valid for the period indicated on this authorization, unless extended or terminated in writing by the U.S. Fish and Wildlife Service, Marine Mammals Management Office.

Signed: 

Date: 1/28/08

1. The first part of the paper discusses the importance of the study and the objectives of the research.

2. The second part of the paper describes the methodology used in the study, including the data collection and analysis techniques.

3. The third part of the paper presents the results of the study, which show a significant positive correlation between the variables.

4. The fourth part of the paper discusses the implications of the findings and provides recommendations for future research.



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AFES/MMM

MAY 22 2008

Ms. Susan Childs  
Shell Exploration & Production Company  
3601 C Street, Suite 1334  
Anchorage, Alaska 99503

Dear Ms. Childs:

This responds to Greg Horner's request of May 8, 2008, to amend the Shell Offshore, Inc. (Shell) Letter of Authorization for the incidental take of polar bears for the 2008 Beaufort Sea Aerial Reconnaissance Program (LOA 08-08) in the vicinity of Point Thomson. The LOA (08-08) allowed Shell to take small numbers of polar bears incidental to multiple ice condition reconnaissance flights between the Point Thomson area and Barter Island. During that time, Shell conducted one flight under LOA 08-08 to deploy Argos Data buoys on ice.

During late May or early June 2008, Shell proposes to conduct additional helicopter overflights for the purpose of ice condition and strudel scour drainage scouting in the vicinity of Point Thomson in support of on-going work. Weather permitting, strudel scour flights should take no more than four days. There will be no planned landings during the overflights other than at the Deadhorse airport. The overflights will be conducted over the coastline and nearshore ice during break-up in the shallow water areas in the vicinity of Point Thomson. All crew will remain on board for the short duration of the overflights. Shell requests an amendment to LOA 08-08 for this portion of the project work.

The U.S. Fish and Wildlife Service will amend LOA 08-08 to include the additional work (discussed below) for this project. All provisions contained within LOA 08-08 remain in effect for this amended LOA. In addition, flight paths will avoid observed polar bears by at least ½ mile and 1,000 feet above ground level (AGL). This authorization continues to be effective until June 30, 2008.

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Ms. Susan Childs

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This authorization is issued in accordance with our regulations listed at 71 FR 43926, dated August 2, 2006. Should you have any further questions, please contact Mr. Craig Perham of our Marine Mammals Management Office, at (907) 786-3800 or 786-3810.

Sincerely,

A handwritten signature in cursive script, appearing to read "Rosa Meehan".

Rosa Meehan, Ph.D.  
Chief, Marine Mammals Management

cc: Mr. Dick Shideler, ADFG  
FFWFO  
OLE